

REMARKS

In response to the Final Office Action mailed October 24, 2003, Applicants respectfully request reconsideration. To further the prosecution of this application, Applicants have amended the claims and submit the following remarks.

Applicants respectfully request entry of this amendment, which is believed to comply with 37 C.F.R. §1.116. The only amendment presented herein is an amendment to correct an informality identified by the Examiner in claim 28. Thus, admission of the amendments herein is believed to be proper.

I. Claim Objections

In ¶3 of the Final Office Action, claim 28 is objected to as containing a phrase after the period in the claim. This phrase has been deleted from the claim. Accordingly, withdrawal of this objection is respectfully requested.

II. Claim Rejections Under 35 U.S.C. §102

In ¶5 of the Final Office Action, claims 1-4, 7-8, 10, 19-21, 23, 24, 26 and 28, which includes independent claims 1 and 19, are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,035,412 (Tamer). The rejections of these claims are respectfully traversed.

Initially, Applicants note that the Tamer reference is also assigned to EMC Corporation, the same assignee as the present application. The claims of the present application are directed to concepts not disclosed in the Tamer reference.

a. Claim 1

Claim 1 recites a computer system comprising a host domain including a host computer and a storage domain coupled to the host domain through one or more communication links. The storage domain comprises: (1) a plurality of primary storage devices for the host domain, at least one of the primary storage devices to provide storage for the host computer, (2) a secondary storage device to provide backup storage for the host computer, and (3) a network, separate from

each of the one or more communication links that couple the storage domain to the host domain, that couples the plurality of primary storage devices to the secondary storage device to permit one of the primary storage devices to access the secondary storage device through the network without using any of the one or more communication links that couple the storage domain to the host domain.

The Office Action alleges that the “one or more communication links” recited in claim 1 correspond to the communication link 6 shown in Fig. 1A of Tamer. Applicants respectfully disagree.

Claim 1 recites “a storage domain coupled to the host domain through one or more communication links.” In Fig. 1A of Tamer, the communication link 6 is connected between data storage systems 2 and 4, which are alleged to comprise the “storage domain” recited in claim 1 according to the Office Action (Office Action at page 3, citing Col. 4, lines 16-20). Thus, the “storage domain” comprising data storage systems 2 and 4 is not coupled to the “host domain” (allegedly host processors 8 and 10) through communication link 6. Rather, the communication link 6 is a link within the alleged storage domain and couples one portion of the storage domain to another. It does not couple the storage domain to the host domain. As a result, Tamer does not disclose a storage domain coupled to the host domain through one or more communication links, where each of the one or more communication links are separate from a network that couples a plurality of primary storage devices to a secondary storage device to permit one of the primary storage devices to access the secondary storage device through the network, as recited in claim 1.

In addition, the Office Action alleges that the “network” recited in claim 1 corresponds to the network 14 shown in Fig. 1A of Tamer. Applicants respectfully disagree.

Claim 1 recites “a network... that couples the plurality of primary storage devices to the secondary storage device to permit one of the primary storage devices to access the secondary storage device through the network... .” The network 14 shown in Fig. 1A of Tamer is described as coordinating backup operations of data stored to the tape silo 12 (e.g., Col. 4, lines 50-53 and Col. 10, lines 30-57). Tamer does not disclose that data storage system 2 accesses data storage system 4 through network 14. Thus, network 14 does not couple a plurality of

primary storage devices to a secondary storage device to permit one of the primary storage devices to access the secondary storage device through the network, as recited in claim 1.

In view of the foregoing, Tamer does not anticipate claim 1, and withdrawal of this rejection is respectfully requested. Claims 2-10 and 26 depend from claim 1 and are allowable for at least the same reasons.

b. Claim 19

Claim 19 recites a method comprising a step of automatically establishing a first connection through a network between a first primary storage element and a secondary storage element through which a first logical object can be transferred from the first primary storage element to the secondary storage element. Tamer does not disclose or suggest such a step.

One exemplary implementation of establishing a connection between a primary storage element and a secondary storage element is described in the application at page 25, line 29 – page 26, line 29. In the example described, the operation of performing a backup from a primary storage element to a secondary storage element first involves setting up a “virtual circuit” or “connection” between the primary storage element and the secondary storage element, based on an instruction from a host computer to establish a virtual circuit. In addition to establishing a connection between the nodes, the virtual circuit identifies a session for copying a series of data (comprising, e.g., a logical object) over the identified connection. The actual performance of the backup process may proceed without further control by the host computer. It should be appreciated that the discussion above is provided merely for the Examiner’s reference, as claim 19 is not limited to this embodiment.

The Office Action appears to consider the “first primary storage element” and “secondary storage element” recited in claim 19 to be data storage systems 2 and 4, respectively, and the “network” recited in claim 1 to be the communication link 6 (Office Action at page 5, citing Col. 5, lines 16-19 of Tamer). Communication link 6 is a high speed point-to-point link dedicated to providing communication between the two storage systems (Col. 7, lines 30-33). It is not a network as recited in claim 19.

With respect to the step of “establishing a first connection,” the Office Action cites Col. 5, lines 6-19, and Col. 6, lines 17-65 as purportedly disclosing this aspect of claim 19. Tamer is completely silent with respect to establishing any connection through the link 6 between the first and second storage elements through which a first logical object can be transferred. Further, it would be unnecessary to establish a connection over communication link 6 because it is a dedicated point-to-point link, and therefore a connection is permanently established between the data storage systems 2 and 4 over the dedicated link. Accordingly, Tamer does not disclose the step of establishing a first connection recited in claim 19.

In view of the foregoing, Tamer does not anticipate claim 19, and withdrawal of this rejection is respectfully requested. Claims 20-25 and 28 depend from claim 19 and are allowable for at least the same reasons.

III. Claim Rejections Under 35 U.S.C. §103

In ¶6 of the Final Office Action, claims 5, 6, 9, 11-18, 22, 25 and 27, which includes independent claim 11, are rejected under 35 U.S.C. §103 as being obvious over Tamer. This rejection is respectfully traversed.

Claim 11 recites a computer system comprising a heterogeneous plurality of host computers including at least a first host computer comprising a first platform and a second host computer comprising a second platform different from the first platform, and a single backup controller capable of backing up data stored from both the first and second host computers on a plurality of primary storage devices to a secondary storage device.

The Office Action concedes that “Tamer fails to specifically teach that the plurality-of host computers are heterogeneous and that they comprise a first host computer comprising a first platform and a second host computer comprising a second platform different from the first platform,” but takes Official Notice that “both the concept and the advantages of providing a plurality of host computers that are heterogeneous” are well known and expected in the art. Thus, the rejection is based, at least in part, on alleged knowledge in the art, or “well-known” prior art pursuant to MPEP §2144.03. Applicants respectfully traverse the assertion that there is any well-known prior art that would have motivated one of ordinary skill in the art to modify the

Tamer system to achieve a computer system as recited in claim 11. If the rejection is to be maintained, the Examiner is respectfully requested to cite a reference in support of his position as required in MPEP §2144.03, or if the Examiner is relying upon facts within his personal knowledge, to file an affidavit establishing those facts pursuant to §2144.03.

Further, although the Office Action alleges that Tamer discloses a single backup controller capable of backing up data stored from both first and second host computers on the plurality of primary storage devices to the secondary storage device, it is noted that the backup console 16 in Tamer is not described as being capable of backing up data stored from both first and second *heterogeneous* host computers. In conventional computer systems, the backup of data created using a particular platform requires a backup agent (e.g., a controller) that is specific to that platform. For example, referring to Fig. 5 of the present application, client 50 would have a backup agent that corresponds specifically to the platform of that host computer. Accordingly, if host computers having different platforms are present in a conventional computer system, separate agents are required to back up data originating from each different platform.

Thus, Applicants respectfully point out that even if there is prior art that would have motivated one of ordinary skill in the art to modify the Tamer system to employ heterogeneous hosts, such prior art would only teach using separate controllers capable of backing up data stored from heterogeneous host computers. There is no suggestion in any prior art of record to use a single backup controller capable of backing up data stored from heterogeneous host computers.

In view of the foregoing, Tamer does not render claim 11 obvious, and withdrawal of this rejection is respectfully requested. Claims 12-18 and 27 depend from claim 11 and are allowable for at least the same reasons.

Conclusion

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' attorney at the telephone number listed below.

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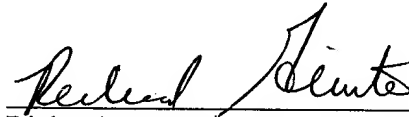
Art Unit: 2188

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,

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